

APPLICATION FOR OHIO EPA SECTION 401 WATER QUALITY CERTIFICATION

Effective October 1, 1996
Revised August, 1998

This application must be completed whenever a proposed activity requires an individual Clean Water Act Section 401 Water Quality Certification (Section 401 certification) from Ohio EPA. A Section 401 certification from the State is required to obtain a federal Clean Water Act Section 404 permit from the U.S. Army Corps Engineers, or any other federal permits or licenses for projects that will result in a discharge of dredged or fill material to any waters of the State. To determine whether you need to submit this application to Ohio EPA, contact the U.S. Army Corps of Engineers District Office with jurisdiction over your project, or other federal agencies reviewing your application for a federal permit to discharge dredged or fill material to waters of the State, or an Ohio EPA Section 401 Coordinator at (614) 644-2001.

The Ohio EPA Section 401 Water Quality Certification Program is authorized by Section 401 of the Clean Water Act (33 U.S.C. 1251) and the Ohio Revised Code Section 6111.03(P). Ohio Administrative Code (OAC) Chapter 3745-32 outlines the application process and criteria for decision by the Director of Ohio EPA. In order for Ohio EPA to issue a Section 401 certification, the project must comply with Ohio's Water Quality Standards (OAC 3745-1) and not potentially result in an adverse long-term or short-term impact on water quality. Included in the Water Quality Standards is the Antidegradation Rule (OAC Rule 3745-1-05), effective October 1, 1996, revised October, 1997 and May, 1998. The Rule includes additional application requirements and public participation procedures. **Because there is a lowering of water quality associated with every project being reviewed for Section 401 certification, every Section 401 certification applicant must provide the information required in Part 10 (pages 3 and 4) of this application.** In addition, applications for projects that will result in discharges of dredged or fill material to wetlands must include a wetland delineation report approved by the Corps of Engineers, a wetland assessment with a proposed assignment of wetland category (ies), official documentation on evaluation of the wetland for threatened or endangered species, and appropriate avoidance, minimization, and mitigation as prescribed in OAC 3745-1-50 to 3745-1-54. Ohio EPA will evaluate the applicant's proposed wetland category assignment and make the final assignment.

Information provided with the application will be used to evaluate the project for certification and is a matter of public record. If the Director determines that the application lacks information necessary to determine whether the applicant has demonstrated the criteria set forth in OAC Rule 3745-32-05(A) and OAC Chapter 3745-1, Ohio EPA will inform the applicant in writing of the additional information that must be submitted. The application will not be accepted until the application is considered complete by the Section 401 Coordinator. An Ohio EPA Section 401 Coordinator will inform you in writing when your application is determined to be complete.

Please submit the following to "Section 401 Supervisor, Ohio EPA/DSW, P.O. Box 1049, Columbus, Ohio 43216-1049:

- Four (4) sets of the completed application form, including the location of the project (preferably on a USGS quadrangle) and 8-1/2 x 11" scaled plan drawings and sections.
- One (1) set of original scaled plan drawings and cross-sections (or good reproducible copies).

(See Application Primer for detailed instructions)

1. The federal permitting agency has determined this project: (check appropriate box and fill in blanks)

- a. ☒ requires an individual 404 permit/401 certification- Public Notice # (if known) 03-07
- b. ☐ requires a Section 401 certification to be authorized by Nationwide Permit # _____
- c. ☐ requires a modified 404 permit/401 certification for original Public Notice # _____
- d. ☐ requires a federal permit under _____ jurisdiction identified by # _____
- e. ☐ requires a modified federal permit under _____ jurisdiction identified by # _____

2. Application number (to be assigned by Ohio EPA):

3. Name and address of applicant:

Kathy M. Griffin

U.S. Army Corps of Engineers

1776 Niagara Street

Buffalo, NY 14207-3199

Telephone number during business hours:

() (Residence)

(716) 879-4315 (Office)

3a. Signature of Applicant:

Kathy M. Griffin

Date: 1/8/03

4. Name, address and title of authorized agent:

Scott W. Pickard

U.S. Army Corps of Engineers

1776 Niagara Street

Buffalo, NY 14207-3199

Telephone number during business hours:

() (Residence)

(716) 879-4404 (Office)

4a. Statement of Authorization: I hereby designate and authorize the above-named agent to act in my behalf in the processing of this permit application, and to furnish, upon request, supplemental information in support of the application.

Signature of Applicant:

Kathy M. Griffin

Date: 1/8/03

5. Location on land where activity exists or is proposed. Indicate coordinates of a fixed reference point at the impact site (if known) and the coordinate system and datum used.

Address:

SEE ATTACHED CONTINUATION SHEET

Street, Road, Route, and Coordinates, or other descriptive location

Watershed

County

Township

City

State

Zip Code

6. Is any portion of the activity for which authorization is sought complete? ☐ Yes ☒ No

If answer is "yes," give reasons, month and year activity was completed. Indicate the existing work on the drawings.

7. List all approvals or certifications and denials received from other federal, interstate, state or local agencies for any structures, construction, discharge or other activities described in this application.

Issuing Agency

Type of Approval

Identification No.

Date of Application

Date of Approval

Date of Denial

SEE ATTACHED CONTINUATION SHEET

8. DESCRIPTION OF THE ACTIVITY (fill in information in the following four blocks - 8a, 8b, 8c & 9)

3a. Activity: Describe the Overall Activity:

SEE ATTACHED CONTINUATION SHEET

8b. Purpose: Describe the purpose, need and intended use of the activity:

SEE ATTACHED CONTINUATION SHEET

8c. Discharge of dredged or fill material: Describe type, quantity of dredged material (in cubic yards), and quantity of fill material (in cubic yards). (OAC 3745-1-05(B)(2)(a))

SEE ATTACHED CONTINUATION SHEET

9. Waterbody and location of waterbody or upland where activity exists or is proposed, or location in relation to a stream, lake, wetland, wellhead or water intake (if known). Indicate the distance to, and the name of any receiving stream, if appropriate.

SEE ATTACHED CONTINUATION SHEET

10. To address the requirements of the Antidegradation Rule, your application must include a report evaluating the:

- Preferred Design (your project) and Mitigative Techniques
- Minimal Degradation Alternative(s) (scaled-down version(s) of your project) and Mitigative Techniques
- Non-Degradation Alternative(s) (project resulting in avoidance of all waters of the state)

At a minimum, item a) below must be completed for the Preferred Design, the Minimal Degradation Alternative(s), and the Non-Degradation Alternative(s), followed by completion of item b) for each alternative, and so on, until all items have been discussed for each alternative (see Primer for specific instructions). (Application and review requirements appear at OAC 3745-1-05(B)(2), OAC 3745-1-05(C)(6), OAC 3745-1-05(C)(1) and OAC 3745-1-54).

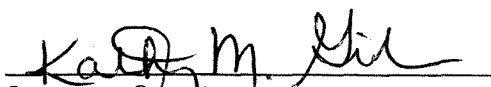
SEE ATTACHED CONTINUATION SHEET

10a) Provide a detailed description of any construction work, fill or other structures to occur or to be placed in or near the surface water. Identify all substances to be discharged, including the cubic yardage of dredged or fill material to be discharged to the surface water. (OAC 3745-1-05(B)(2)(b))

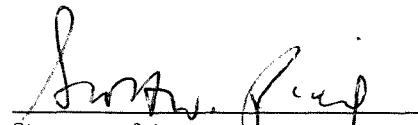
10b) Describe the magnitude of the proposed lowering of water quality. Include the anticipated impact of the proposed lowering of water quality on aquatic life and wildlife, including threatened and endangered species (include written comments from Ohio Department of Natural Resources and U.S. Fish and Wildlife Service), important commercial or recreational sport fish species, other individual species, and the overall aquatic community structure and function. Include a Corps of Engineers approved wetland delineation. (OAC 3745-1-05(C)(6)(a, b) and OAC 3745-1-54)

- 10c) Include a discussion of the technical feasibility, cost effectiveness, and availability. In addition, the reliability of each alternative shall be addressed (including potential recurring operational and maintenance difficulties that could lead to increased surface water degradation.) (OAC 3745-1-05(C)(6)(h, j-k) and OAC 3745-1-54)
- 10d) For regional sewage collection and treatment facilities, include a discussion of the technical feasibility, cost effectiveness and availability, and long-range plans outlined in state or local water quality management planning documents and applicable facility planning documents. (OAC 3745-1-05(C)(6)(i))
- 10e) To the extent that information is available, list and describe any government and/or privately sponsored conservation projects that exist or may have been formed to specifically target improvement of water quality or enhancement of recreational opportunities on the affected water resource. (OAC 3745-1-05(B)(2)(g))
- 10f) Provide an outline of the costs of water pollution controls associated with the proposed activity. This may include the cost of best management practices to be used during construction and operation of the project. (OAC 3745-01-05(C)(6)(g))
- 10g) Describe any impacts on human health and the overall quality and value of the water resource. (OAC 3745-1-05(C)(6)(c) and OAC 3745-1-54)
- 10h) Describe and provide an estimate of the important social and economic benefits to be realized through this project. Include the number and types of jobs created and tax revenues generated and a brief discussion on the condition of the local economy. (OAC 3745-1-5(B)(2)(e), and OAC 3745-1-05(C)(6)(i))
- 10i) Describe and provide an estimate of the important social and economic benefits that may be lost as a result of this project. Include the effect on commercial and recreational use of the water resource, including effects of lower water quality on recreation, tourism, aesthetics, or other use and enjoyment by humans. (OAC 3745-1-05(B)(2)(e,f), and OAC 3745-1-05(C)(6)(e))
- 10j) Describe environmental benefits, including water quality, lost and gained as a result of this project. Include the effects on the aquatic life, wildlife, threatened or endangered species. (OAC 3745-1-05 (B)(2)(e,f), OAC 3745-1-05 (C)(6)(b) and OAC 3745-1-54)
- 10k) Describe mitigation techniques proposed (except for the Non-Degradation Alternative):
- Describe proposed Wetland Mitigation (see OAC 3745-1-54 and Primer)
 - Describe proposed Stream, Lake, Pond Mitigation (see Primer)

11. Application is hereby made for a Section 401 Water Quality Certification. I certify that I am familiar with the information contained in this application and, to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities or I am acting as the duly authorized agent of the applicant.


Signature of Applicant

1/8/03
Date


Signature of Agent

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in Block 3 has been filled out and signed.

Do not send a certification processing fee with this application. The appropriate fee will be assessed when a certification is issued.

CONTINUATION SHEET

Application for OEPA Section 401 State Water Quality Certification

TOLEDO HARBOR (MAUMEE RIVER AND OUTER HARBOR) MAINTENANCE DREDGING PROJECT

5. The project is located in Toledo Harbor, Lucas County, Ohio. The latitude/longitude of the dredging activity is 41E41'49"/83E27'49". The latitude/longitude of open-lake disposal site is 41E46'10"/83E15'39". The latitude/longitude of the CDF is 41E42'07"/83E25'56".

7. Environmental Assessment (EA) and Section 404(b)(1) Evaluation, Operation and Maintenance, Toledo Harbor, Ohio

- < Issuing Agency - U.S. Army Corps of Engineers
- < Type of Approval - Finding of No Significant Impact (FONSI) and Section 404(b)(1) Evaluation
- < Date of Application - 29 December 1988
- < Date of Approval - 18 August 1989

Environmental Impact Statement (EIS) and Section 404(b)(1) Evaluation, Toledo Harbor CDF, Toledo Harbor, Ohio

- < Issuing Agency - U.S. Army Corps of Engineers
- < Type of Approval - Record of Decision (ROD)
- < Date of Application - 20 July 1990
- < Date of Approval - 14 May 1992

8a. The project will entail the maintenance dredging of sediments from the authorized Federal navigation channels of Toledo Harbor, Lucas County, Ohio. The channels will be dredged to authorized depth. An additional one-foot of material may be dredged to ensure the minimum depth. Using 2000 sediment data, the quality of the material was carefully assessed in accordance with joint U.S. Environmental Protection Agency (USEPA)/U.S. Army Corps of Engineers (USACE) protocols for the testing and evaluation of Great Lakes dredged material. This assessment has concluded that the material in the Lake Approach Channel lakeward of Lake Mile (LM) 2 meets Federal guidelines, and is therefore suitable for open-lake disposal. Based on this assessment, it is proposed that material dredged from the Lake Approach Channel lakeward of LM 2 be discharged at the existing two-square mile open-lake disposal area in Lake Erie located three and one-half miles from the Toledo Harbor light at an azimuth of 033°00'. This site has been previously used by the USACE for the disposal of Toledo Harbor dredged material. All material in the Maumee River and Lake Approach Channel, landward of LM 2 has been determined to be unsuitable for open-lake disposal. Therefore, this material will be placed in the existing Confined Disposal Facility (CDF) No. 2 located near the mouth of Maumee River. A Contractor of the Federal government will accomplish the project. The project is described in

further detail in the attached Public Notice.

8b. The purpose of the project is to maintain sufficient water depths for commercial navigation. This project was congressionally authorized by the 1899, 1910, 1935, 1950, 1954, 1958 and 1960 River and Harbor Acts.

8c. Based on past testing programs, the material to be dredged consists mainly of silts and clays. Approximately 850,000 cubic yards of sediments will be dredged from the harbor. All of this dredged material will be subsequently discharged as described in Item 8a of this application. Additional information on the dredged material can be found in paragraph 1.4 of the Section 404(b)(1) Evaluation and paragraphs 1.6 through 1.8 of the EA.

9. The dredging portion of the project is located in Toledo Harbor, which is located at the mouth of the Maumee River (a major tributary to Lake Erie) and in the Western Basin of Lake Erie. The dredged material disposal sites are located in Lake Erie, as noted in Item 8a of this application. The Maumee River and Western Basin of Lake Erie are the receiving waters for dredging activities. Lake Erie is the receiving water for disposal activities.

10. Information required under this item is included in the EISs, EAs and Section 404(b)(1) specified above and furnished to OEPA in 1996. The following is a summary of the information contained in these documents that apply to this item of the application:

a. Descriptions.

(1) Preferred Design Alternative: This alternative would entail the dredging of an estimated 850,000 cubic yards of dredged material from the Federal navigation project. The type of equipment used to complete the maintenance dredging operation would depend on the Contractor performing the work. Approximately 300,000 cubic yards of material will be dredged from the Maumee River Channel and Lake Approach Channels landward of LM 2 and would be placed in the existing Toledo Harbor CDF No. 2 in Lake Erie. Another 550,000 cubic yards would be dredged from the Lake Approach Channel (lakeward of LM 2) and discharged at the existing open-lake site. Dredging would not be performed during Lake Erie storm events. A Contractor of the Federal government would accomplish the project. The project would take about 70 to 120 days to complete.

(2) Non-Degradation Alternative: This is the "No Action" alternative. See paragraph 1.4 of the Section 404(b)(1) Evaluation and paragraphs 1.6 through 1.8 of the EA. Toledo Harbor would not be dredged. No construction or filling of surface waters would occur as a result of this alternative.

(3) Minimum Degradation Alternative: This alternative would entail the dredging of an estimated 850,000 cubic yards of dredged material from the Federal navigation project. The type of equipment used to complete the maintenance dredging operation would depend on the Contractor performing the work. Approximately 300,000 cubic yards of material will be dredged from the Maumee River Channel and Lake Approach Channel (landward of LM 2), and would be

placed in the existing Toledo Harbor CDF No. 2 in Lake Erie. Another 550,000 cubic yards would be dredged from the Lake Approach Channel (lakeward of LM 2) and discharged at the existing open-lake site. In response to local concerns, dredged material disposal would be restricted to the northeast half of this site. In addition, dredging would not be performed during Lake Erie storm events. The dredging operation would occur between April 1 and November 30 in order to minimize impacts to local environmental resources, primarily fisheries. A Contractor of the Federal government would accomplish the project. The project would take about 70 to 120 days to complete.

b. Water Quality Impacts.

(1) Preferred Design Alternative: The material that would be dredged under this alternative consists of sediments that have deposited in the Federal navigation channels since the last maintenance dredging effort. These types of sediments are homogenous and residually contaminated with pollutants that are ubiquitous throughout the Great Lakes. As such, sediments in the Maumee River Channel and Lake Approach Channel (landward of LM 2), although not virgin material with high levels of pollutants, contain levels of contaminants that are elevated in relation to Lake Erie background levels and should be confined from the aquatic environment after dredging. Other interests believe that sediments between LM 2 and 5 should also be confined from the aquatic environment after dredging. Sediments in the Lake Approach Channel (lakeward of LM 2) are similar in chemistry to those present in the Lake Erie environment. A characterization of this material is contained in paragraphs 1.7 and 1.8 of the EA and paragraph 1.4.1 of the Section 404(b)(1) Evaluation. For the effects of this alternative's lowering of water quality on aquatic life, refer to paragraphs 3.3.4 through 3.3.14 of the EA and paragraphs 2.1.4, 2.3.3, and 2.5.1 through 2.5.4 of the Section 404(b)(1) Evaluation. This alternative would result in a short-term, negligible lowering of ambient water quality, comparable to that which occurs during Lake Erie storm events. Dredging and disposal activities would result in the excavation, smothering and mortality of benthic macroinvertebrates, and the temporary avoidance of work areas by fish and wildlife species (i.e., mostly waterfowl). Following dredging and disposal activities, the benthic communities would recolonize the impacted areas, and fish and wildlife would return. The dredging area is quite industrialized, so benthic, fish and wildlife use of the water resource is limited; therefore, impacts in this regard would be minor. Dredging would not be performed during Lake Erie storm events. No impacts to threatened or endangered species would occur.

(2) Non-Degradation Alternative: Since this alternative involves no construction or filling of surface waters, no lowering of water quality would result.

(3) Minimum Degradation Alternative: The material that would be dredged under this alternative consists of sediments that have deposited in the Federal navigation channels since the last maintenance dredging effort. These types of sediments are homogenous and residually contaminated with pollutants that are ubiquitous throughout the Great Lakes. As such, sediments in the Maumee River Channel and Lake Approach Channel (landward of LM 2), although not virgin material with high levels of pollutants, contain levels of contaminants that are elevated in relation to Lake Erie background levels and should be confined from the aquatic environment

after dredging. Other interests believe that sediments between LM 2 and 5 should also be confined from the aquatic environment after dredging. Sediments in the Lake Approach Channel (lakeward of LM 2) are similar in chemistry to those present in the Lake Erie environment. A characterization of this material is contained in paragraphs 1.7 and 1.8 of the EA and paragraph 1.4.1 of the Section 404(b)(1) Evaluation. For the effects of this alternative's lowering of water quality on aquatic life, refer to paragraphs 3.3.4 through 3.3.14 of the EA and paragraphs 2.1.4, 2.3.3, and 2.5.1 through 2.5.4 of the Section 404(b)(1) Evaluation. This alternative would result in a short-term, negligible lowering of ambient water quality, comparable to that which occurs during Lake Erie storm events. Dredging and disposal activities would result in the excavation, smothering and mortality of benthic macroinvertebrates, and the temporary avoidance of work areas by fish and wildlife species (i.e., mostly waterfowl). Following dredging and disposal activities, the benthic communities would recolonize the impacted areas, and fish and wildlife would return. The dredging area is quite industrialized, so benthic, fish and wildlife use of the water resource is limited; therefore, impacts in this regard would be minor. The dredging operation would occur between April 1 and November 30 in order to minimize impacts to local environmental resources, primarily fisheries. In response to local concerns, the discharge of dredged material would be restricted to the northeast half of the open-lake disposal site. In addition, dredging would not be performed during Lake Erie storm events. No impacts to threatened or endangered species would occur.

c. Feasibility.

- (1) Preferred Design Alternative: This alternative is technically feasible, as it involves routine maintenance dredging and dredged material disposal procedures. Equipment is readily available to accomplish this type of work. The Benefit/Cost (B/C) ratio for this alternative with respect to commercial navigation in the harbor is greater than or equal to 1.0. Costs of this project have ranged from \$2.00 to \$2.75 per cubic yard of dredged material over the past five years. Although this alternative is the most viable for commercial navigation, recurrent maintenance dredging needs of the Federal navigation channels, as required, would continue to marginally degrade water quality.
- (2) Non-Degradation Alternative: Since this alternative involves no construction or filling of surface waters, this alternative is technically feasible and available, but would not be cost effective from a commercial navigation standpoint. Under this alternative, the Federal navigation channels would progressively shoal in and impede commercial navigation, which would result in an increased cost of commodities to the local community. Deep-draft commercial navigation in the harbor would become economically nonviable and gradually cease.
- (3) Minimum Degradation Alternative: This alternative is technically feasible, as it involves routine maintenance dredging and dredged material disposal procedures. Equipment is readily available to accomplish this type of work. The B/C ratio for this alternative with respect to commercial navigation in the harbor is greater than or equal to 1.0. Costs of this project have ranged from \$2.50 to \$5.00 per cubic yard of dredged material over the past five years. Although this alternative is the most viable for commercial navigation, recurrent maintenance dredging needs of the Federal navigation channels, as required, would continue to marginally degrade

water quality.

d. Regional Sewage Collection/Treatment Facilities. N/A.

e. Water Quality Improvement/Recreation Projects. The last Stage I Investigation Report for the Remedial Action Plan [RAP] for the Maumee River Basin Area of Concern was completed in 1982. In accordance with Public Law 91-611 and/or USACE Operation and Maintenance authorities, CDFs were constructed at this harbor as an alternative to the open-lake disposal of dredged material in Lake Erie waters.

f. Water Pollution Control Costs.

(1) Preferred Design Alternative: Not dredging during storm events constitutes "blow days," which cost about \$5,000 to \$20,000 per day of lost work. The decision not to dredge based on weather conditions would be due to safety concerns.

(2) Non-Degradation Alternative: Since this alternative involves no construction or filling of surface waters, no costs result from water pollution controls.

(3) Minimum Degradation Alternative: The cost of adhering to the environmental window for this alternative would be significant. The moderately restrictive environmental window under this alternative would raise the cost about 10-20 percent per cubic yard. In addition, not dredging during storm events constitutes "blow days," which cost about \$5,000 to \$20,000 per day of lost work. The decision not to dredge based on weather conditions would be due to safety concerns. Restricting the disposal of dredged material to the northeast half of the open-lake site would result in a five percent increase in dredging/disposal cost per cubic yard.

g. Human Health Impacts.

(1) Preferred Design Alternative: The human health impacts associated with this alternative would be indiscernible. The generation of turbidity and reduced dissolved oxygen in the water column would be the major effects associated with the dredging and disposal activities. The dredging area is within an industrialized water resource designed for commercial navigation. This alternative would result in short-term, minimal impacts to the quality and value of the receiving waters. Polluted sediments would be removed from the Federal navigation channels and contained in a CDF, which would serve to improve water quality in the harbor and reduce their availability to aquatic life and wildlife.

(2) Non-Degradation Alternative: Since this alternative involves no construction or filling of surface waters, no effects to human health would occur. Lowered water quality during dredging and disposal activities (turbidity and reduced dissolved oxygen in the water column) would not occur. Polluted sediments would not be removed from the Federal navigation channels and contained in a CDF, which would serve to degrade water quality in the harbor over the long-term, and leave sediment contaminants in-place and available to aquatic life and wildlife. The overall value of the harbor as a water resource to commercial navigation would progressively deteriorate

to a point at which deep-draft commercial vessels would no longer be able to navigate the harbor due to inadequate depths.

(3) Minimum Degradation Alternative: The human health impacts associated with this alternative would be indiscernible. The generation of turbidity and reduced dissolved oxygen in the water column would be the major effects associated with the dredging and disposal activities. The dredging area is within an industrialized water resource designed for commercial navigation. This alternative would result in short-term, minimal impacts to the quality and value of the receiving waters. Polluted sediments would be removed from the Federal navigation channels and contained in a CDF, which would serve to improve water quality in the harbor and reduce their availability to aquatic life and wildlife. Dredging would be scheduled to occur between April 1 and November 30 to minimize the effects of turbidity and low dissolved oxygen level on fisheries.

h. Social/Economic Benefits Gained.

(1) Preferred Design Alternative: This alternative would restore navigable depths in the harbor channels for commercial vessel traffic. A large industrial base depends on the harbor to receive commercial goods and ship them off-site for a reasonable cost. As such, it would allow for the cost-effective transport of commodities through the local community. The major products shipped through Toledo Harbor include coal, fuel oil, steel and grain. This would have a substantial positive impact on the local economy by providing jobs that support these commodities, as well as by maintaining competitive price levels on commercial goods. Existing commercial industry on the harbor supports well over 2,000 blue-collar jobs. This industrial base would generate substantial tax revenues for local governments. Construction of the project itself would support about 10-20 blue-collar jobs in the dredging industry for a period of about three to five months. In addition, social and economic benefits associated with recreational navigation would accrue with project construction.

(2) Non-Degradation Alternative: This alternative would involve the cessation of maintenance of harbor Federal navigation channels. However, benefits would accrue to recreational navigation until the channels shoal into a degree at which they would no longer be usable for shallow-draft vessels. Recreational benefits in this regard would include primarily those associated with local marinas and the leisure craft they support.

(3) Minimum Degradation Alternative: This alternative would restore navigable depths in the harbor channels for commercial vessel traffic. The social and economic benefits generated as a result of this alternative would be similar to those associated with the Preferred Design Alternative. A large industrial base depends on the harbor to receive commercial goods and ship them off-site for a reasonable cost. As such, it would allow for the cost-effective transport of commodities through the local community. The major products shipped through Toledo Harbor include coal, fuel oil, steel and grain. This would have a substantial positive impact on the local economy by providing jobs that support these commodities, as well as by maintaining competitive price levels on commercial goods. Existing commercial industry on the harbor supports well over 2,000 blue-collar jobs. This industrial base would generate substantial tax

revenues for local governments. Construction of the project itself would support about 10-20 blue-collar jobs in the dredging industry for a period of about three to five months. In addition, social and economic benefits associated with recreational navigation would accrue with project construction.

i. Social/Economic Benefits Lost.

(1) Preferred Design Alternative: Lowered water quality associated with this alternative, such as turbidity and reduced dissolved oxygen levels in the water column, would be aesthetically displeasing and may not be attractive to recreational boaters in the area. Recreational fishing activities in the harbor may be negatively affected by the lowering of water quality. Except for commercial industries such as restaurants and other riparian retail establishments, the lowering of water quality would have minimal negative effects on commercial activities.

(2) Non-Degradation Alternative: Since this alternative involves no construction or filling of surface waters, no lowering of water quality would occur. Therefore, negative effects on the recreational use of the harbor would not occur. However, substantial effects on commercial navigation and associated industries would occur as a result of this alternative. The overall value of the harbor as a water resource to commercial navigation would progressively deteriorate to a point at which deep-draft commercial vessels would no longer be able to navigate the harbor due to inadequate depths. The large industrial base that depends on the harbor to transport commodities would no longer be able to do so cost-effectively. The harbor would no longer be a viable alternative for the transportation of goods. This would have a substantial negative impact on the local economy resulting in the loss of over 2,000 blue-collar jobs that support these commodities. The harbor would no longer effect competitive price levels on local commercial goods. Since the industrial base on the harbor would likely close down, all tax revenues in this regard would be lost. The lack of project construction itself would result in the loss of about 10 to 20 blue-collar jobs in the dredging industry for a period of about three to five months.

(3) Minimum Degradation Alternative: Lowered water quality associated with this alternative, such as turbidity and reduced dissolved oxygen levels in the water column, would be aesthetically displeasing and may not be attractive to recreational boaters in the area. The restriction of dredged material disposal to the northeast half of the open-lake site would be more aesthetically pleasing than disposing of the material in the southwest portion of the open-lake site. Recreational fishing activities in the harbor may be negatively affected by the lowering of water quality. Except for commercial industries such as restaurants and other riparian retail establishments, the lowering of water quality would have minimal negative effects on commercial activities.

j. Environmental Benefits Lost/Gained.

(1) Preferred Design Alternative: This alternative would result in a short-term reduction of water quality in the receiving waters. Dredging and disposal activities would result in the excavation, smothering and mortality of benthic macroinvertebrates, and the temporary

avoidance of work areas by fish and wildlife species (i.e., mostly waterfowl). The dredging area is quite industrialized, so benthic, fish and wildlife use of the water resource is limited; therefore, impacts in this regard would be minor. Following dredging and disposal activities, the benthic communities would recolonize the impacted areas, and fish and wildlife would return.

Regarding environmental benefits, polluted sediments would be removed from the Federal navigation channels and contained in a CDF, which would serve to improve water quality in the harbor on the long-term, remove sediment contaminants and reduce their availability to aquatic life and wildlife. Sediments dredged from the Lake Approach Channel (lakeward of LM 2) would be placed at the open-lake disposal site. No effects to endangered or threatened species would occur.

(2) Non-Degradation Alternative: Since this alternative involves no construction or filling of surface waters, associated environmental benefits would include no degradation of water quality in receiving waters, and no physical disturbances to benthos, or fish and wildlife. Regarding environmental losses, polluted sediments would not be removed from the Federal navigation channels and contained in a CDF, which would serve to degrade water quality in the harbor on the long-term, and leave sediment contaminants in-place and available to aquatic life and wildlife. No effects to endangered or threatened species would occur.

(3) Minimum Degradation Alternative: This alternative would result in a short-term reduction of water quality in the receiving waters. Dredging and disposal activities would result in the excavation, smothering and mortality of benthic macroinvertebrates, and the temporary avoidance of work areas by fish and wildlife species (i.e., mostly waterfowl). The dredging area is quite industrialized, so benthic, fish and wildlife use of the water resource is limited; therefore, impacts in this regard would be minor. Dredging will be scheduled to occur between April 1 and November 30 to minimize the effects of turbidity and low dissolved oxygen levels on fisheries. Following dredging and disposal activities, the benthic communities would recolonize the impacted areas, and fish and wildlife would return. Regarding environmental benefits, polluted sediments would be removed from the Federal navigation channels and contained in a CDF, which would serve to improve water quality in the harbor on the long-term, remove sediment contaminants and reduce their availability to aquatic life and wildlife. Sediments dredged from the Lake Approach Channel (lakeward of LM 2) would be placed at the open-lake disposal site. In response to local concerns, discharge would be restricted to the northeast half of this site. No effects to endangered or threatened species would occur.

k. Mitigative Techniques.

(1) Preferred Design Alternative: Dredging will not be performed during Lake Erie storm events. Sediments dredged from the Lake Approach Channel (lakeward of LM 2) would be placed at the open-lake disposal site. Care would be employed throughout the course of the dredging and discharge operations to avoid the creation of unnecessary turbidity that may degrade water quality or adversely affect aquatic life outside the project area.

(2) Non-Degradation Alternative: N/A.

(3) Minimum Degradation Alternative: Dredging will be scheduled to occur between April 1 and November 30 to minimize any potential impacts on fishery resources. Sediments dredged from the Lake Approach Channel (lakeward of LM 2) would be placed at the open-lake disposal site, and discharge would be restricted to the northeast half of this site. Dredging will not be performed during Lake Erie storm events. Care would be employed throughout the course of the dredging and discharge operations to avoid the creation of unnecessary turbidity that may degrade water quality or adversely affect aquatic life outside the project area.